

ABSTRACT

One embodiment of the present invention is a method for nuclear magnetic resonance
5 imaging of an investigation region of formation surrounding a wellbore. The method comprises
the steps of applying a series of magnetic field gradients to phase encode nuclear spins within the
investigation region, wherein the strength of the magnetic field gradient applied is different from
at least one previously applied magnetic field gradient within the series. Nuclear magnetic
resonance signals are detected from the investigation region resulting from the series of magnetic
field gradients.

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